A service delivery model of Constraint-Induced Movement Therapy in an undergraduate clinical education setting

Binns E[1] & Taylor D[1]

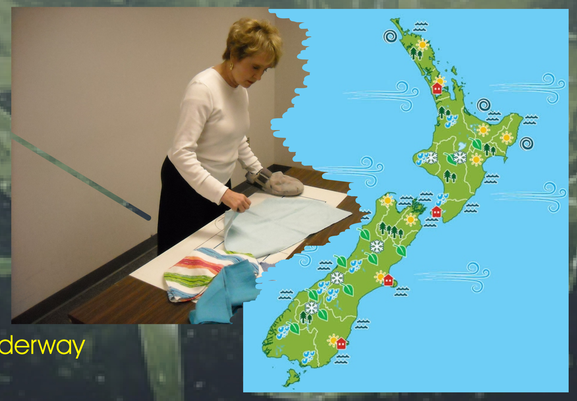
[1]AUT University, Health and Rehabilitation Research Institute, Auckland, New Zealand,

Health & Rehabilitation Research Institute

Introduction

Constraint-Induced Movement Therapy (CIMT) is a rehabilitation programme designed to improve arm and hand function following stroke by limiting the use of the stronger hand and promoting use of the affected hand[1].

Despite strong evidence of effectiveness[2], CIMT is not a readily available treatment option in New Zealand post-stroke rehabilitation settings. Currently there is no hard evidence as to why this research validated therapy is not available but anecdotally a major drawback is the amount of therapist time required.



A CIMT session underway

Purpose

To explore a unique method of service delivery for Constraint-Induced Movement Therapy.

Participants

A self selected group of people with chronic stroke (n=6, 2 women and 4 men; ages 49-72 years old; time since stroke 22 to 84 months; right hemiplegia n=5, right hand dominant n=5).

Method

Final year undergraduate physiotherapy students, supervised and supported by clinical educators (registered physiotherapists) delivered the programme from 9 a.m to 3 p.m., Monday to Friday for two weeks.

The service delivery model was evaluated using group feedback sessions with the students; while the patients completed an anonymous questionnaire.

Students were asked to talk about their experience of delivering CIMT, using prompts such as "What did you like?" "What could be done differently?"

Patients were asked
What did you like most about the programme?
What could be improved
If you had to pay, what do you think it's worth?
Any other comments?

Results

Student responses included:

- Enjoyed the creativity of treatment ideas
- Didn't know what to expect from a treatment point of view as no articles are explicit with respect to intervention
- Liked hearing fuller explanations of treatment techniques
- Great to have prep time before patients come in to informally hand over to each other and share treatment ideas
- Prefer not to maintain a patient case load during the CIMT service
- Enjoyed the experience as had not treated upper limb on hospital rotation

Patients responses included:

Summary:
Fun, supportive atmosphere
Individual contact & individual programmes
Would like review a few months after programme
Suggested cost: free, $100/wk, $250/wk, $500/wk

They have given us self confidence

No ideas for changes to the programme spring to mind

Had enough by end of day but that's what it's about

Other:
Everyone has met the challenge & will go home better off
Incredible/amazing
I like the way the course is set dependent on your needs
We have all 6 of us had a joyous time
Worked hard but played pretty hard too
Everyone included was marvelous
Students & supervisors were fantastic

More exercises

Functional improvements included:

Mr K (2 years post-stroke) could control his affected hand supination to drink soup from a spoon without spilling any.

Mr X (7 years post-stroke) could fully extend his elbow, drink a glass of wine and shave with his affected hand for the first time since his stroke.

Mr O (5 years post-stroke) wrote a lower case "a" for the first time since his stroke

Implications

A clinical education environment enables treatment options which may not yet be viable within current healthcare funding limitations; benefiting both patients and undergraduate students.

This service is now a part of the regular clinical service from the AUT University undergraduate Physiotherapy Neurological Clinic[3]; and it's success has paved the way for other new initiatives.

References

1 Taub, E., Crago, J., Burgio, L., Groomes, T., Cook, E., DeLuca, S., et al. (1994). AAn operant approach to rehabilitation medicine: overcoming learned nonuse by shaping. J Exp Anal Behav, 61(2), 281-293.

2 Sirtori V, Corbetta D, Moja L, Gatti R. Constraint-induced movement therapy for upper extremities in stroke patients. Cochrane Database of Systematic Reviews 2009, Issue 4. Art. No.: CD004433. DOI: 10.1002/14651858.CD004433.pub2.

3 Binns E & Taylor D. Students and patients gain from new model, unique programme. Physio matters September 201, p11.

Acknowledgments

The Northern X Regional Ethics Committee (NTX/10EXP/062) approved this study.
All participants gave written consent before baseline assessment
Presented at World Congress of Physical Therapy 2011, Amsterdam

liz.binns@aut.ac.nz